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Office of Building Technologies Program
Department of Energy
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Subject: DOE Energy Star Residential Window and Door Energy Ratings

Alcoa Inc. supports the principles of the DOE conservation efforts as shown by our joining DOE's Energy Efficiency Office in the Allied Partnership Agreement, and in our support of an effective Energy Star program to provide energy conservation guidance to consumers when they are making window, door and skylight decisions.

We applaud the revisions from the 2002 proposal regarding excess emphasis on HDD mapping for application of various standard requirements. However, we remain disappointed that other consumer-advocate issues we and others have suggested were not considered in the February 11, 2003 proposal. We continue to find that features of the revised voluntary ratings are incomplete and do a disservice to the consumers and the manufacturing industry required to support an adequate rate of window replacement.

The following provides additional background on these topics, and we welcome the opportunity to join with DOE to make the Energy Star program better.

A. Lifetime Energy Performance. The 1998 DOE Energy Star rating system and the proposed 2003 revision still only uses thermal conduction and Solar Heat Gain factors for identifying Energy Star acceptable products when these products are new, while the fenestration technical community standards use additional factors for full product performance assessment. These factors include air infiltration, service durability and structural and storm mechanical performance. The 2003 Energy Star proposed revision does not correct this incomplete set of performance criteria, making the Energy Star standard weaker than IECC and related standards. Neglecting these other factors leads to poor actual energy saving performance, consumer dissatisfaction with comfort and distrust of the government's recommendations.

The greater thermal expansion and lower engineering stiffness of PVC materials leads to increased air leakage and shorter performance life-cycle of windows when compared to aluminum-framed windows. The proposed 2003 Energy Star standard fails to recognize the new NFRC test data showing deterioration of vinyl windows, as disclosed at the NFRC Meeting on January 16-17, 2003 at Houston, Texas. This deterioration results in increased air infiltration to lessen energy efficiency and results in shorter window life. This result then requires both more heating in winter and more cooling for temperature and humidity control in summer. These

results support industry anecdotal evidence suggesting only 10 year service life for vinyl windows. This adversely impacts consumer costs far in excess of the small heating energy savings, and further worsen the life-cycle economics considering full aluminum recyclability vs. degraded reuse of vinyl products.

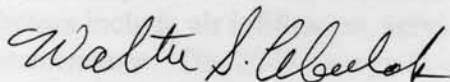
The DOE Energy Star rating system should be a more inclusive rating standard, and recommend the 2003 February 11 proposal be augmented with air infiltration, aging durability and storm structural elements that consensus standard bodies like National Fenestration Rating Council (NFRC), American Architectural Manufacturers Association (AAMA), American Society of Heating Refrigerating and Air-conditioning Engineers (ASHRAE) and ASTM could provide. This clearly would make the DOE Energy Star standards superior to IECC and related standards.

B. Competitive Marketplace. The proposed rating system revision and geographic mapping of the requirements disenfranchises aluminum window and door systems throughout most of the Southeastern, Southern and Southwestern United States, effectively removing Energy Star ratings from 35% of the current Energy Star rated products, some 30,000 products from hundreds of window and door manufacturers. Even in the warmest areas of the U.S., 4000 products from 70+ companies will be disenfranchised from the Energy Star program. We feel that the impacts cited in "An Evaluation of Alternative Qualifying Criteria for Energy Star Windows: February, 2003" significantly understate this diminishing of competitive supply and threaten acceptance of the Energy Star rating program.

If we consider that the available window-making capacity in the U.S. can only replace about 5% of the old, energy-inefficient windows annually, disenfranchising current Energy Star window-makers will reduce the replacement rates, reduce the actual, realized energy savings from the existing Energy Star products and contribute to higher window costs from eliminated competitors. Further, the relatively short life of vinyl frames and windows further consumes replacement capacity to lessen captured energy savings.

Alcoa Inc. supports DOE's energy saving goals, and would welcome the opportunity to work with the Department to make the Energy Star program more effective.

Sincerely yours,



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